

REMARKS

Patent Examiner Doerrler is thanked for the several telephone conferences relating to the four transmissions of the Response of November 19, 2001, to the prior final Action.

The Examiner seems to have understood that the present invention comprises an accumulator not disclosed by the prior art, but refuses to recognize this distinction under 35 USC 112, first paragraph, and, therefore, finds the claims anticipated under 35 USC 102 or obvious under 35 USC 103 by repeating the grounds mentioned in the Office Action of 13 September 2002.

In item 9 of the Office Action, the Examiner requests the Applicant to provide an explanation of how the nitrogen bottles and the tube constitute an accumulator; and how do the nitrogen bottles and the tube function as an accumulator. When one or more nitrogen bottles (9-12) charged to high pressure are in fluid communication with the long tube (2), one can say - according to the present patent application - that they form a hydraulic accumulator. The Nitrogen accumulated in the bottle(s) discharges from the bottle(s) to drive the fluid accumulated in the (long) tube in communication with the bottle(s) from that part of the tube between the bottle(s) and one or more spray heads along the tube that have released.

The Examiner refers to the applicant-cited "Standard Handbook for Mechanical Engineers" as defining an accumulator to include pressurized hydraulic fluid acting against an actuator or motor to convert fluid pressure energy into mechanical energy. However, we note that said book more generally states (above figure 82):

"Accumulators are effectively "hydraulic flywheels" which store potential energy by

accumulating a quantity of pressurized hydraulic fluid in a suitable enclosed vessel".

The feature of having the potential energy to drive an actuator or motor is, therefore, only one application of the Handbook-defined accumulator.

Further, the applicant may be his own lexicographer so long as the applicant's own definition in the specification is not contrary to usual usage.

Office personnel must rely on the applicant's disclosure to properly determine the meaning of terms used in the claims. *Markman v. Westview Instruments*, 52 F.3d 967, 980, 34 USPQ2d 1321, 1330 (Fed. Cir.) (*en banc*), *aff'd*, U.S. , 116 S. Ct. 1384 (1996). An applicant is entitled to be his or her own lexicographer, and in many instances will provide an explicit definition for certain terms used in the claims. Where an explicit definition is provided by the applicant for a term, that definition will control interpretation of the term as it is used in the claim. *Toro Co. v. White Consolidated Industries Inc.*, 199 F.3d 1295, 1301, 53 USPQ2d 1065, 1069 (Fed. Cir. 1999) (meaning of words used in a claim is not construed in a "lexicographic vacuum, but in the context of the specification and drawings."). MPEP 2106 at page 2100-8.

Nothing in applicant's definition is contrary even to the Handbook definition and, therefore, applicant's definition of the claimed accumulator should be accepted.

Still further, the Academic Press Dictionary of Science and Technology (<http://www.harcourt.com/dictionary/def/7/9/1/0/79100.html>) mentions the term accumulator as a device that accumulates or stores something; specific uses include: Mechanical Engineering. any device used in hydraulic systems to store fluid under pressure in a container. Petroleum Engineering. a tank, chamber or vessel for holding liquid or air under pressure for use in a hydraulic or air-actuated system. Electricity. a British Britain for storage battery. Aviation. A device that stores fuel and releases it.

Mathematics. a general term fro any digital device that stores a number.

Furthermore, the Dictionary of Scientific and Technical Terms, McGraw-Hill, Fourth Edition, 1989, pp 13-14 (copy attached) mentions an accumulator as an device, such as a bag containing pressurized gas, which acts upon hydraulic fluid in a vessel, discharging it rapidly to give high hydraulic power, after which the fluid is returned to the vessel with the use of low hydraulic power, c.f. enclosure.

Still furthermore, a search for hydraulic accumulator on the USPTO's own website provides the following results:

Hits 1 through 20 out of 20

PAT. NO.	Title
5,996,699	Installation for fighting fire
5,992,530	Installation for fighting fire
5,944,112	Drive source for fire fighting apparatus
5,887,662	Method and installation for fighting fire
5,845,714	Method and installation for fire extinguishing using a combination of liquid fog and a non-combustible gas
5,845,713	Fire fighting installation for discharging a liquid-gas fog
5,826,663	System for fighting fires
5,810,091	Method for fighting fire by pressing out fire-extinguishing liquid with a gas
5,810,090	Method for fire fighting
5,806,601	Delivery of fire-extinguishing material by a pressure gas source
5,799,735	Fire fighting system for discharging a liquid-gas finely divided mist
5,738,174	Gas-driven method for fighting fire
5,713,417	Method and equipment for fire fighting
5,676,210	Method and installation for fighting fire
5,673,755	Installation for fighting fire in a plurality of fire sections
5,653,291	Pressure activated valve for fire fighting installation
5,632,337	Fire-fighting equipment
5,628,368	Fire fighting installation
5,575,338	Valve for fire fighting installation
5,573,065	Spray head provided with a pressure sensitive valve.

It is submitted that from the references in the above list one can easily find out that the expression "hydraulic accumulator" in the fire fighting field generally does not include such a definition as submitted in the Office Action.

From the above is understood that the term accumulator must be interpreted quite broadly as a general term for a device capable of storing energy, and in the present application it has been used as a term for a device for storing pressurized fluid energy. The term hydraulic accumulator does not necessarily include conversion of fluid pressure into mechanical energy; and this is especially true in the present application, because the present patent application has not defined the expression "hydraulic accumulator" in such a way.

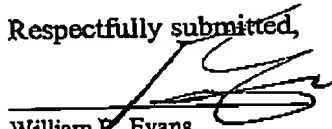
Therefore, the term used in the patent application must be given the meaning it has been given in the application, which is neither misleading nor ambiguous nor, even, different from the more broadly understood term.

The affidavit previously requested is required by 37 CFR 1.104(d)(2). Rule 104 is indexed in the MPEP for the Examiner's convenience. The Examiner may also care to consider the fate of the Board of Patent Appeals and Interferences in In re Lee, 61 USPQ 1430, 1435 (Fed. Cir. 2002):

Thus when they [the patent examiner and the Board] rely on what they assert to be general knowledge to negate patentability, that knowledge must be articulated and placed on the record.

Reconsideration and allowance are therefore, requested.

Respectfully submitted,



William R. Evans  
c/o Ladas & Parry  
26 West 61<sup>st</sup> Street  
New York, New York  
Reg. No. 25858  
Tel. No. (212) 708-1930

ENCL.

# McGraw-Hill DICTIONARY OF SCIENTIFIC AND TECHNICAL TERMS

## Fourth Edition

**Sybil P. Parker**

EDITOR IN CHIEF

**McGraw-Hill Book Company**

New York  
St. Louis  
San Francisco

Auckland	Bogotá
Caracas	Colorado Springs
Hamburg	Lisbon
London	Madrid
Mexico	Milan
Montreal	New Delhi
Oklahoma City	Panama
Paris	San Juan
São Paulo	Singapore
Sydney	Tokyo
Toronto	



On the cover: Pattern produced from white light by a computer-generated diffractio plate containing 529 square apertures arranged in a 23 x 23 array. (R. B. Hoyer, Marshall Space Flight Center)

On the tie pages: Aerial photograph of the Sinai Peninsula made by Gemini spacecraft. (NASA)

Included in this Dictionary are definitions which have been published previously in the following works: F. B. Jordan, *Condensed Computer Encyclopedia*, Copyright © 1969 by McGraw-Hill, Inc. All rights reserved. J. Markus, *Electronics and Nucleonics Dictionary*, 4th ed., Copyright © 1960, 1966, 1978 by McGraw-Hill, Inc. All rights reserved. J. Quirk, *Artists' and Illustrators' Encyclopedia*, Copyright © 1969 by McGraw-Hill, Inc. All rights reserved. *Blakiston's Gould Medical Dictionary*, 3d ed., Copyright © 1956, 1972 by McGraw-Hill, Inc. All rights reserved. T. Baumeister and L. S. Mirks, eds., *Standard Handbook for Mechanical Engineers*, 7th ed., Copyright © 1958, 1967 by McGraw-Hill, Inc. All rights reserved.

In addition, material has been drawn from the following references: R. E. Huschke, *Glossary of Meteorology*, American Meteorological Society, 1959; *U.S. Air Force Glossary of Standardized Terms*, AF Manual 11-1, vol. 1, 1972; *Communications-Electronics Terminology*, AF Manual 11-1, vol. 3, 1970; V. H. Allen, ed., *Dictionary of Technical Terms for Aerospace Use*, 1st ed., National Aeronautics and Space Administration, 1965; J. M. Gilliland, *Solar-Terrestrial Physics: A Glossary of Terms and Abbreviations*, Royal Aircraft Establishment Technical Report 67158, 1967; *Glossary of Air Traffic Control Terms*, Federal Aviation Agency; *A Glossary of Range Terminology*, White Sands Missile Range, New Mexico, National Bureau of Standards, ID 467-424; *A DOD Glossary of Mapping, Charting and Geodetic Terms*, 1st ed., Department of Defense, 1967; P. W. Thrush, comp. and ed., *A Dictionary of Mining, Mineral, and Related Terms*, Bureau of Mines, 1968; *Nuclear Terms: A Glossary*, 2d ed., Atomic Energy Commission; F. Casey, ed., *Compilation of Terms in Information Science Technology*, Federal Council for Science and Technology, 1970; *Glossary of Space Terminology*, Office of Aerospace Research, U.S. Air Force, 1963; *Naval Dictionary of Electronic, Technical, and Imperative Terms*, Bureau of Naval Personnel, 1962; *ADP Glossary*, Department of the Navy, NAVSO P-3097.

#### McGraw-Hill Dictionary of Scientific and Technical Terms, Fourth Edition

Copyright © 1989, 1984, 1978, 1976, 1974 by McGraw-Hill, Inc. All rights reserved. Printed in the United States of America. Except as permitted under the United States Copyright Act of 1976, no part of this publication may be reproduced or distributed in any form or by any means, or stored in a data base or retrieval system, without the prior written permission of the publisher.

1 2 3 4 5 6 7 8 9 0 DOW/DOW 8 9 5 4 3 2 1 0 9 8

ISBN 0-07-045270-9

#### Library of Congress Cataloging-in-Publication Data

McGraw-Hill dictionary of scientific and technical terms.

1. Science—Dictionaries. 2. Technology—Dictionaries.  
L. Parker, Sybil P.  
Q123.M34 1989 503/.21 88-13490  
ISBN 0-07-045270-9

For more information about other McGraw-Hill materials call 1-800-2-MCGRAW in the United States. In other countries, call your nearest McGraw-Hill office.

**accommodation** [CONT SYS] Any alteration in a robot's action in response to the robot's environment; it may be active or passive. [ECOL] A population's location within a habitat. [AP] The limits or range within which a stereo-plotting instrument is capable of operating. [PHYSIO] A process in vertebrates whereby the focal length of the eye is changed automatically to bring images of objects at various distances into focus on the retina. {ə,kəm-ə'dā-shən}

**accommodation coefficient** [STAT MECH] The ratio of the average energy actually transferred between a surface and impinging gas molecules scattered by the surface, to the average energy which would theoretically be transferred if the impinging molecules reached complete thermal equilibrium with the surface. {ə,kəm-ə'dā-shən,kō-ə'fish-ənt}

**accommodation ladder** [NAV ARCH] A light ladder or similar structure, usually portable, hung over a ship's side at the gangway to permit access to small boats. {ə,kəm-ə'dā-shən d-ər}

**accommodation reflex** [PHYSIO] Changes occurring in the eyes when vision is focused from a distant to a near object; involves pupil contraction, increased lens convexity, and convergence of the eyes. {ə,kəm-ə'dā-shən rē'fleks}

**accretant** [GEOL] Pertaining to topographic features that have nearly the same elevation. {ə'krē-shən}

**accretant fold** [GEOL] One of several folds that are similarly oriented. {ə'krē-shən fōld}

**accretant summit level** [GEOL] A hypothetical horizontal line that can be drawn over a broad region connecting mountain summits of similar elevation. {ə'krē-shən 'səm-əl,lev-}

**accretion cable** [ELEC] A flat, multiconductor cable pressed into a zigzag shape and used to make connections to movable equipment such as a chassis mounted on pullout slides. {ə'krē-shən kē'bəl}

**accretion door** [BUILD] A door that folds and unfolds like an accordion when it is opened and closed. {ə'krē-shən,dōr}

**accretion fold** [GRAPHICS] In a binding operation, two or more parallel folds of printed sheets. {ə'krē-shən fōld}

**accretion partition** [BUILD] A movable, fabric-faced partition which is fitted into an overhead track and folds like an accordion. {ə'krē-shən pər'tishən}

**accretion roller conveyor** [MECH ENG] A conveyor with a flexible latticed frame which permits variation in length. {ə'krē-shən rōl-ər kən'vey-ər}

**accounting machine** [COMPUT SCI] A machine that processes tabulations or accounting records of a specified unvarying nature. {ə'kaunt-ing mə'shən}

**accounting package** [COMPUT SCI] A set of special routines allowing collection of information about the usage level of various components of a computer system by each production program. {ə'kaunt-ing 'pāk-ij}

**acouplement** [ARCH] A pair of elements of a structure that are very close or touching, such as two columns. {ə'kəp-lə-mənt}

**acrescent** [BOT] Growing continuously with age, especially after flowering. {ə'krē-shənt}

**accretion** [ASTRON] A process in which a star gathers molecules of interstellar gas to itself by gravitational attraction. [V ENG] Artificial buildup of land due to the construction of a pier, breakwater, dam, or beach fill. [GEOL] 1. Gradual buildup of land on a shore due to wave action, tides, currents, borne material, or alluvial deposits. 2. The process whereby rocks or other inorganic masses add to their bulk by adding particles to their surfaces. Also known as aggradation. [METEOROL] The growth of a precipitation particle by the collision of a frozen particle (ice crystal or snowflake) with a supercooled liquid droplet which freezes upon contact. {ə'krē-shən}

**accretionary lapilli** See mud ball. {ə'krē-shən,er-ə lə'pili}

**accretionary lava ball** [GEOL] A rounded ball of lava that runs on the surface of an aa lava flow. {ə'krē-shən,er-ə 'lā-bəl}

**accretionary limestone** [PETR] A type of limestone formed by the slow accumulation of organic remains. {ə'krē-shən,er-ə līm-stən}

**accretionary ridge** [GEOL] A beach ridge located inland from the modern beach, indicating that the coast has been built outward. {ə'krē-shən,er-ə rīd}

**accretion disk** [ASTRON] A viscous structure consisting of

gas lost by a red giant or supergiant star. {ə'krē-shən,disk}

**accretion hypothesis** [ASTRON] Any hypothesis which assumes that the earth originated by the gradual addition of solid bodies, such as meteorites, that were formerly revolving about the sun but were drawn by gravitation to the earth. {ə'krē-shən hī'pōth-ə-səs}

**accretion line** [HISTOL] A microscopic line on a tooth, marking the addition of a layer of enamel or dentin. {ə'krē-shən ,līn}

**accretion tectonics** [GEOL] The bringing together, or suturing, of terranes; regarded by many geologists as an important mechanism of continental growth. {ə'krē-shən tek'tōn-iks}

**accretion theory** [ASTRON] A theory that the solar system originated from vortices in a disk-shaped mass. {ə'krē-shən 'thē-ər-ē}

**accretion topography** [GEOL] Topographic features built by accumulation of sediment. {ə'krē-shən tōp-ə'grə-fē}

**accretion vein** [GEOL] A type of vein formed by the repeated filling of channels followed by their opening because of the development of fractures in the zone undergoing mineralization. {ə'krē-shən ,vān}

**accretion zone** [GEOL] Any beach area undergoing accretion. {ə'krē-shən zōn}

**accumbent** [BOT] Describing an organ that leans against another; specifically referring to cotyledons having their edges folded against the hypocotyl. {ə'kəm-bənt}

**accumulated discrepancy** [ENG] The sum of the separate discrepancies which occur in the various steps of making a survey. {ə'kyū-myə,lād-əd də'skrep-ən-sē}

**accumulated divergence** [MAP] In making a map, the algebraic sum of the divergences for the sections of a line of levels, from the beginning of the line to any section end at which it is desired to compute the total divergence. {ə'kyū-myə,lād-əd də'vər-jens}

**accumulated dose** [PHYSIO] The total amount of radiation absorbed by an organism as a result of exposure to radiation. {ə'kyū-myə,lād-əd 'dōs}

**accumulated total punching** [COMPUT SCI] A checking procedure to ensure that no punch-card item has been dropped from a file. {ə'kyū-myə,lād-əd tōt-əl 'pən-ŋch-ing}

**accumulating reproducer** [COMPUT SCI] An electromechanical device which reads a sorted deck of cards and creates a set of subtotals on additional cards according to some preset criterion. {ə'kyū-myə,lād-ing ,rē-prə'dūs-ər}

**accumulation** [HYD] The quantity of snow or other solid form of water added to a glacier or snowfield by alimination. [MIN ENG] 1. In coal mining, fire-damp that collects in higher parts of mine workings and at the edge of wastes. 2. Oil or gas in some form of trap. {ə'kyū-myə'lā-shən}

**accumulation area** [HYD] The portion of a glacier above the firm line, where the accumulation exceeds ablation. Also known as firm field; zone of accumulation. {ə'kyū-myə'lā-shən 'er-ə}

**accumulation factor** [MATH] The quantity  $(1+r)$  in the formula for compound interest, where  $r$  is the rate of interest; measures the rate at which the principal grows. {ə'kyū-myə'lā-shən 'fak-tər}

**accumulation point** See cluster point. {ə'kyū-myə'lā-shən ,pōint}

**accumulation zone** [GEOL] The area where the bulk of the snow contributing to an avalanche was originally deposited. {ə'kyū-myə'lā-shən zōn}

**accumulative error** See cumulative error. {ə'kyū-myə,lād-iv 'er-ər}

**accumulative timing** [IND ENG] A time-study method that allows direct reading of the time for each element of an operation by the use of two stopwatches which operate alternately. {ə'kyū-myə,lād-iv 'tīm-ing}

**accumulator** [AERO ENG] A device sometimes incorporated in the fuel system of a gas-turbine engine to store fuel and release it under pressure as an aid in starting. [CHEM ENG] An auxiliary ram extruder on blow-molding equipment used to store melted material between deliveries. [COMPUT SCI] A specific register, in the arithmetic unit of a computer, in which the result of an arithmetic or logical operation is formed; here numbers are added or subtracted, and certain operations such as sensing, shifting, and complementing are performed. Also



acene [ORG CHEM] Any condensed polycyclic compound

acetaldehyde cyanohydrin  
da,hiid ,si'no'no'hiid'ran }  
acetal resins (ORG CHEM) Linear, synthetic resins prod

by the p  
or of fo  
tough pl  
polyacet  
acetam  
orless at  
solvent.  
acetamk  
Dellques  
reported  
alcohol;  
triazines  
3-acetam  
(HO)(Cl  
slightly;  
alkali am  
cine. A  
hi, drink's  
acetamin  
prisms w  
solvents;  
of azo dy  
and antip  
acetanilid  
of white.  
powder v  
water, ulc  
zene; uses  
stuffs and  
ure, and:  
acetarson  
acetate |  
acid, CH<sub>3</sub>  
second typ  
ion, such:  
 textile fibe  
lute. For  
acetate dy  
go or anti  
Any of a  
rated wit  
valuable.  
| acetate film  
transparent  
but; used  
as: | acetate of l  
| poliglycer  
| (3,5,6-tri  
| acetate pro  
| ip or con  
| ionic acti  
| 250, but p  
| acetate rays  
| benzolam  
| colorless, w  
| with a melt  
| as a diuretic  
| phenyl Se  
| acetic acid  
| liquid or cr  
| yster or alc  
| ment of vi  
| the norm  
| wool. {  
| acetic acid {  
| "k" (10-20)  
| acetic anhyd  
| pungent oc  
| as an ac  
| ic ester.  
| acetic ether.  
| acetic ferme  
| reduce acet  
| to bacter.  
| acetic thiok  
| nation of  
| phosphate.  
| acetic Se

**This Page is Inserted by IFW Indexing and Scanning  
Operations and is not part of the Official Record**

**BEST AVAILABLE IMAGES**

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

☐ BLACK BORDERS

☒ IMAGE CUT OFF AT TOP, BOTTOM OR SIDES

☐ FADED TEXT OR DRAWING

☐ BLURRED OR ILLEGIBLE TEXT OR DRAWING

☐ SKEWED/SLANTED IMAGES

☐ COLOR OR BLACK AND WHITE PHOTOGRAPHS

☐ GRAY SCALE DOCUMENTS

☐ LINES OR MARKS ON ORIGINAL DOCUMENT

☒ REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY

☐ OTHER: \_\_\_\_\_

**IMAGES ARE BEST AVAILABLE COPY.**

**As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.**